1. # EC-TYPE EXAMINATION CERTIFICATE

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3. **EC-Type Examination Certificate Number:** ITS15ATEX18379X

4. **Equipment or Protective System:** Optical Encoder Type OCE and Magnetic Encoder Type UCE

5. **Manufacturer:** FRABA B.V.

6. **Address:** Jan Campertstraat 11,
6416 SG Heerlen,
The Netherlands

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Intertek Testing and Certification Limited, notified body number 0359 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

   The examination and test results are recorded in confidential Intertek Report 102369261CHE-002 Dated: January 2016

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN 60079-0:2012 +A11:2013, EN 60079-1:2014 and EN 60079-31:2014 except in respect of those requirements referred to at item 16 of the Schedule.

10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11. This EC Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include the following:-

    II 2 G Ex db IIC T5 Gb
    II 2 D Ex tb IIIC T 100°C Db IP6X
    -40 °C ≤ Ta ≤ +70°C

Intertek Testing & Certification Limited
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Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

P Moss
Certification Officer
29 January 2016

SCHEDULE

EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS15ATEX18379X

13. **Description of Equipment or Protective System**

The Optical Encoders Type OCE and Magnetic Encoders Type UCE are small flameproof enclosures containing electronics. The encoder housing is manufactured from stainless steel, acid proof stainless steel or aluminium with a drive shaft in one end shield. The shaft can be either solid type shaft or hollow type shaft. The body makes one cylindrical joint with the drive end shield on another side. Each end shield (the drive end and the non-drive end) is secured to the body with six M4 counter bored socket head cap screws. O-rings are fitted to each cylindrical joint. There is a shaft seal on drive end seal, where two ball bearings are mounted to the cylindrical joint between the shaft and the drive end shield.
The encoder housing can be provided with up to three M20 x 1.5 or M25 x 1.5 threaded entries on the non-drive end shield. These threaded entries are closed with the suitable separately ATEX certified cable glands. All unused entries must be closed with suitable separately ATEX certified blanking elements. The apparatus is rated at 450mA maximum current and voltage range up to 30 V dc.
Rated speed for type variants with seal max 3000 rpm, without seal max. 6000 rpm
Max. permissible load on the shaft: axial 60 N and 80 N radial.

Additionally the encoders meet IP64/65/66/67 in accordance with EN 60529.

14. **Report Number**

Intertek Report 102369261CHE-002 Dated: January 2016

15. **Conditions of Certification**

(a). Special Conditions for safe use

- It is a condition of certification that the flame paths have to comply with the manufacturers drawings and can only be repaired by the manufacturer.
- It is a condition of certification that precautions must be taken to avoid dust from forming layers on the encoder.
- The fasteners used to secure enclosure body to end shields shall have a minimum yield stress of 450 MPa.
- Use only suitably certified Ex db IIC Gb and Ex tb IIIC Db cable glands, thread adapters and blanking elements.

(b). Conditions of Manufacture

- There are no routine tests.

16. **Essential Health and Safety Requirements (EHSR's)**

The relevant EHSR's have been identified and assessed in Intertek Report 102369261CHE-002 Dated: January 2016

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17. **Drawings and Documents**

Title	Drawing No.:	Rev. Level:	Date:
OCE (EXAG) – Posital PL Marking label 100 x 23 Ex-dwg.	00240296	3	27.01.2016
UCE (EXAG) – Posital PL Marking label 100 x 23 Ex-dwg.	00240339	1	27.01.2016

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IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx ITS 15.0065X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2016-02-09

Applicant: **FRABA B.V.**
Jan Campertstraat 11
6416 SG Heerlen
Netherlands

Equipment: **Optical Encoder Type OCM and Magnetic Encoder Type UCM**

Optional accessory:

Type of Protection: **Flameproof and Dust protection by enclosure**

Marking:
Ex db I Mb
Ex db IIC T5 Gb
Ex tb III C T 100 °C Db IP6*
-40 °C ≤ Ta ≤ +70°C
IECEx ITS 15.0065X

Approved for issue on behalf of the IECEx Certification Body: **P Moss**

Position: **Certification Officer**

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Intertek Testing & Certification Limited
ITS House, Cleeve Road
Leatherhead
Surrey, KT22 7SB
United Kingdom

IECEx Certificate of Conformity

Certificate No.: **IECEx ITS 15.0065X**

Date of issue: 2016-02-09 Issue No: 0

Manufacturer: **FRABA B.V.**
Jan Campertstraat 11
6416 SG Heerlen
Netherlands

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

GB/ITS/ExTR15.0059/00

Quality Assessment Report:

DE/TUN/QAR13.0002/01

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Optical Encoders Type OCM and Magnetic Encoders Type UCM are small flameproof enclosures containing electronics. The encoder housing is manufactured from stainless steel, acid proof stainless steel or aluminium with a drive shaft in one end shield. The shaft can be either solid type shaft or hollow type shaft. The body makes one cylindrical joint with the drive end shield on another side. Each end shield (the drive end and the non-drive end) is secured to the body with six M4 counter bored socket head cap screws. O-rings are fitted to each cylindrical joint. There is a shaft seal on drive end seal, where two ball bearings are mounted to the cylindrical joint between the shaft and the drive end shield.The encoder housing can be provided with up to three M20 x 1.5 or M25 x 1.5 threaded entries on the non-drive end shield. These threaded entries are closed with the suitable separately IECEx certified cable glands. All unused entries must be closed with suitable separately IECEx certified blanking elements.

The apparatus is rated at 450 mA maximum current and voltage range from upto 30 V dc. Rated speed for type variants with seal max 3000 rpm, without seal max. 6000 rpmMax. permissible load on the shaft: axial 60 N and 80 N radial.

Additionally the encoders meet IP64/65/66/67 in accordance with IEC 60529.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- It is a condition of certification that the flame paths have to comply with the manufacturers drawings and can only be repaired by the manufacturer.
- It is a condition of certification that precautions must be taken to avoid dust from forming layers on the encoder.
- The fasteners used to secure enclosure body to end shields shall have a minimum yield stress of 450 MPa.
- Use only suitably certified Ex db I Mb/ Ex db IIC Gb and Ex tb III C Db cable glands, thread adapters and blanking elements.

Annex:

Annex to IECEx ITS 15.0065X issue No.0.pdf

Schedule of Drawings for Certificate: IECEx ITS 15.0065X Issue No.:0

Manufacturer:
FRABA B.V.
Jan Campertstraat 11
6416 SG Heerlen
The Netherlands

Document No.	Sheets	Document Title	Issue	Date
00240297	1	OCM (EXME) – Posital PL Marking label 100x23 Ex-dwg.	3	27.01.2016
00240340	1	UCM (EXME) – Posital PL Marking label 100x23 Ex-dwg.	1	27.01.2016

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